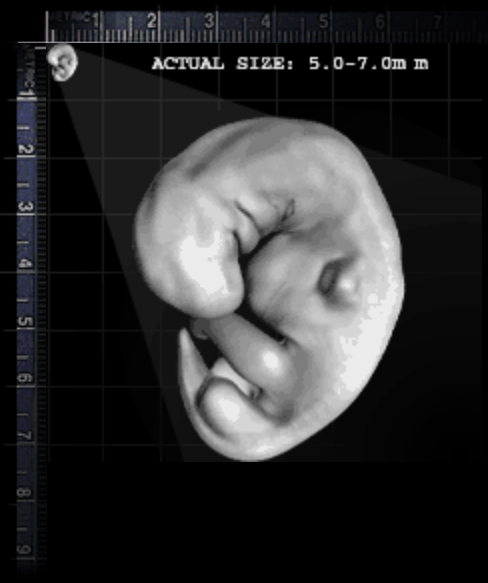

Stage 14

Stage 14

(4 to 8 weeks post fertilization)

Lens Pit and Optic Cup Appear, Endolymphatic Appendage Distinct

Head and Neck

The brain and head grow rapidly. The mandibular and hyoid arches are noticeable. Ridges demarcate the three sections of the brain (midbrain, forebrain and hindbrain). The spinal cord wall at this stage contains three zones: the ventricular, the mantle and the marginal. The ventricular zone will form neurons, glial cells and ependymal cells, the intermediate mantle will form neuron clusters and the marginal zone will contain processes of neurons. Adenohypophyseal pouch, which will develop into the anterior pituitary, is defined.

Lens vesicle opens to the surface and is nestled within the otptic cup.

Otic vesicle increases its size by approximately one-fourth and its endolymphatic appendage is more defined.

Nasal plate can be detected by thickened ectoderm.

Thorax

Esophagus, the tube through which food is swallowed, forms from a groove of tissue that separates from the trachea, which is also visible.

Semilunar valves begin to form in the heart. Four major subdivisions of the heart (the trabeculated left and right ventricles, the conus cords and the truncus arteriosus) are clearly defined. Two sprouts, a ventral one from the aortic sac and a dorsal one from

the aorta, form the pulmonary (sixth aortic) arch.

Right and left lung sacs lie on either side of the esophagus.

Abdomen and Pelvic Regions

Ureteric bud appear. Metanephros, which will eventually form the permanent kidney, is developing.

Limbs

Upper limbs elongate into cylindrically-shaped buds, tapering at tip to eventually form hand plate. Nerve distribution process, innervation, begins in the upper limbs.